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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/921,237	08/02/2001	Marcus Eh	Mo-6475/HR-249	6009

157 7590 10/16/2003

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EXAMINER

COLE, MONIQUE T

ART UNIT PAPER NUMBER

1743

DATE MAILED: 10/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/921,237

Applicant(s)

EH ET AL.

Examiner

Monique T. Cole

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 02 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-7 are rendered indefinite because of the non-conventional representation of the claimed macrocyclic ketone compound. Upon inspection of the specification, Applicant has only discussed a 16-member alicyclic ketone that may or may not be saturated. However, the representation of the compound is unclear and appears to be an overly broad depiction of the 16-member compound. It is unclear which brackets correspond to x and which correspond to y so that one can derive Applicant's intended compound. Further, it is difficult to determine the placement of the alkyl or alkylidene substituent with respect to the carbonyl group. Appropriate correction or explanation is required.

3. Claim 7 recites the limitation "the keto function" in line 1 of the claim. There is insufficient antecedent basis for this limitation in the claim. It is unclear what compound Applicant is referencing wherein the keto function is protected.

*Claim Rejections - 35 USC § 102*

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 2, 4 & 5 are rejected under 35 U.S.C. 102(b) as being anticipated by DE 2934683 (abstract) to Bauer et al. (herein referred to as "Bauer").

Bauer teaches a 3-methyl-cyclohexadecen-5-one-1. This compound is a 16-membered alicyclic ketone with a lower alkyl substituent. As such, it meets the limitations of the compound set forth in claim 1. The disclosed compound has utility as a perfume ingredient & renders a musk (muscone) note to fragrance compositions. See abstract.

*Claim Rejections - 35 USC § 103*

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.

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3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
8. Claims 1, 2, 4 & 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over USP 3,935,270 to Calderon (herein referred to as "Calderon").

Calderon discloses an alicyclic ketone containing 16 carbon atoms in the ring. For example, cyclohexadecene-1-one & cyclohexadecanone are obtained in the disclosure (col. 11, lines 35 & 37). Calderon also discusses that such compounds are extremely valuable as perfume bases because they exhibit a pleasant and lasting musk (muscone) odor. See col. 1, lines 15-24.

Calderon differs from the instantly claimed invention in that it does not disclose that the 16-member alicyclic ketone be substituted with a lower alkyl or alkylidene group.

However, a *prima facie* case of obviousness may be made when chemical compounds have very close structural similarities and similar utilities. In the instant case, both the claimed compound and the disclosed compound have utility in the fragrance art. An obviousness rejection based on similarity in chemical structure and function entails the requisite motivation of one skilled in the art to make a claimed compound, in the expectation that compounds similar in structure will have similar properties.

Thus, while Calderon may not explicitly disclose the presence of a lower alkyl substituent, given the similar utility of the claimed compound to the Calderon compound, it would have been obvious to one of ordinary skill in the art to make the claimed lower alkyl substituted compound with the expectation of it having similar fragrancing capability. Moreover, although the instantly claimed compound may possess a lower alkyl substituent, one of ordinary skill in the art would

not expect a substantial difference between the claimed compound and that of Calderon, as compounds differing only by one methyl group are generally of sufficiently close structural similarity that there is a presumed expectation that such compounds possess similar properties (i.e., functionally equivalent perfumes). See MPEP 2144.09. It has been held that the "*nature of homologues and the close relationship the physical and chemical properties of one member of a series bears to adjacent members is such that a presumption of unpatentability arises against a claim directed to a composition of matter, the adjacent homologue of which is old in the art.*" See *In re Henze* 85 USPQ 261 (CCPA 1950). Therefore, for the reasons set forth above, Applicant's claimed invention is deemed to be obvious, within the meaning of 35 USC 103, over Calderon.

*Allowable Subject Matter*

9. Claim 3 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

10. Claims 6 & 7 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

11. The following is a statement of reasons for the indication of allowable subject matter: the prior art does not teach or suggest the specifically recited compounds of claim 3. With respect to claim 6, the prior art does not teach or suggest preparation of the claimed macrocyclic ketone wherein a cyclohexadecanedione is used a starting material and is reacted with a lower alkyltriphenylphosphonium halide and strong base in an aprotic solvent, and the resulting alkylidene-cyclohexadecanone is optionally isomerized & hydrogenated. With respect to claim 7,


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the prior art does not teach or suggest preparation of the claimed macrocyclic ketone via an ethylene acetal protecting group in combination with a Wittig reaction. The closest prior art regarding claims 6 & 7 is thought to be USP 5,120,880 which teaches preparation of a muscone compound using a process wherein a 2-oxo-propenyltriphenylphosphonium salt is used rather than the lower alkyltriphenylphosphonium recited in instant claim 6. Moreover, USP 5,120,880 does not teach using an ethylene acetal-protecting group as required by claim 7.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monique T. Cole whose telephone number is 703-305-0447. The examiner can normally be reached on Monday-Thursday from 6:30 A.M. to 4:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 703-308-4037. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-0661.

  
Monique T. Cole  
Examiner  
Art Unit 1743

MC